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## A Note upon Two Neglected Species of *Formica* Linn. (Hym.: Formicidae)

By W. L. BROWN, JR., State College, Pennsylvania

In 1903, in a paper on Hymenoptera from Beulah, New Mexico, H. L. Viereck described a new variant of *Formica fusca* Linn. and named it "var. *densiventris* n. subsp." The description was vague and misleading, especially in regard to color details. Wheeler, in his 1913 revision of *Formica*, placed *densiventris* in the synonymy of *F. fusca* var. *subaenescens* Emery, though he followed the notation with a questionmark. In the short discussion of his action, Wheeler stated that he had never seen the types.

The author has recently come upon Viereck's types in the collection of the Academy of Natural Sciences in Philadelphia, and even cursory examination has convinced him that the specimens cannot belong to *subaenescens*. The red color of the head and thorax in the types at once separates them from *subaenescens*, which is colored black or blackish throughout these regions.

The type was keyed down in Wheeler's key to *Formica* in the 1913 paper to couplet 22, which includes *F. fusca* var. *neoclara* Emery and *F. fusca* var. *blanda* Wheeler. It agrees with neither alternative. After comparing the types with various members of the *fusca-rufibarbis* complex, the author is satisfied

that *densiventris* is a valid subspecies. Presented below is an attempt to improve upon the original description.

***Formica fusca* subsp. *densiventris* Viereck**

*Formica fusca* var. *densiventris* n. subsp. Viereck, Trans. Amer. Ent. Soc., XXIX, p. 73 (1903). Worker.

*Formica fusca* var. *subaenescens* Wheeler, Bull. Mus. Comp. Zool., LIII, pp. 504 and 505 (1913). Worker. Emery, Gen. Insect.; Formicidae: Formicinae, Fasc. 183, p. 248 (1925). Worker.

*Worker* (ANS Type No. 4955): 5.1 mm. Head in shape that of *fusca* group in general. The median clypeal carina extending from the anterior clypeal margin not quite to the anterior margin of the frontal area; maxillary palps long. Promesonotum and epinotum convex as seen from the side in profile, the mesepinotal constriction cut fairly deeply and broadly, and the epinotum without an angle, though rather high. Petiolar scale seen from in front rather narrow, the superior borders originating from an insignificant flattened space at the apex and passing through even, insensible curves into the lateral borders.

Head, thorax, petiole and gaster shagreened and opaque, frontal area and greater part of the legs shining. Mandibles longitudinally striate.

Hairs moderately long on dorsum of the head, truncate, scarce above compound eyes, absent on the gula. A few short subclavate hairs on the pro- and mesonotum, sides of the epinotum and on the ventral surface of the petiole. A set of three erect hairs on each side of the superior border of the petiolar scale. Dorsum and venter of gaster with scattered hairs of varying length, often truncate.

Pubescence of head and legs dilute and inconspicuous; of gaster, long, dense and slightly silvery under magnification.

Ground-color of head, thorax and petiole light brownish-red with an area between and above the compound eyes, dorsum of pro- and mesonotum, parts of the thoracic pleurae, coxae, and scale of petiole deeply infuscated. Gaster very dark brownish-

black; legs brown with joints more yellowish; antennae light reddish brown and slightly infuscated toward their tips.

*Paratype specimen*: 4.5 mm. The petiolar node is narrower than in the type and much more acute, forming a distinct angle at its apex. Only one hair is present on the petiolar border, and it is far down on the lateral part of the border. Some hairs may be missing due to mishandling, however. In other respects, the paratype specimen is much like the type. Numbered ANS paratype 4955-1.

The two type specimens came from Beulah, New Mexico, and were collected by H. Skinner August 17, 1901.

There are two other workers in the collection which agree rather closely with the types, but which have the infuscated areas on the head and thorax lighter and less extensive. One of this pair has the petiole narrower even than the type and paratype, and more acute above. The latter are labelled "Head of Daily Canon" and were collected by T. D. A. Cockerell. "Daily" (or "Dailey") Canyon is in the region of Beulah, which lies at some 8000 feet altitude.

This subspecies is related to *F. fusca* var. *neoclara* and *fusca* var. *blanda*, but differs in having the gaster much darker in color and the petiolar scale narrower. The more rounded profile of the epinotum distinguishes the form from *F. rufibarbis* vars. *occidua* Wheeler and *gnava* Buckley.

Collections of the forms of the *fusca-rufibarbis* complex having reddish head and thorax should be made in the Beulah region before all doubt about this form is removed, since the *Formicas* of the complex are apparently quite variable even in series from one colony.

### ***Formica aterrima* Cresson redescribed**

*Formica aterrima* Cresson, Proc. Ent. Soc. Phila. IV, p. 426 (1865). ♂.

*Male* (ANS Type No. 1853): Length 9.4 mm. Frontal area with very fine arching cross-striation, very slightly shining.

Head, thorax (especially the sides), femora and petiolar scale bearing abundant long, slender grayish hairs, also present but not abundant on the gaster. Eyes hairy; tibiae with oblique hairs. Pubescence of the gaster long, appressed, fairly dense, but allowing the visibility of the integumental surface, which appears under strong light as a shining, finely shagreened surface. Legs, funiculi of antennae and gaster very dark reddish brown. Scapes, head, thorax and petiolar scale a very dark brown approaching black. Wings clear except for the basal one-third, which is tinged with brownish-yellow. The specimens are quite possibly faded through age in both type and paratype specimens.

The *paratype male* (ANS Type No. 1853-2) agrees closely with the type specimen, but lacks most of the ventral and posterior portions of the gaster, due to the attacks of museum pests.

Cresson described this species from among collections made by James Ridings in the Colorado Territory during the summer of 1864. According to information obtained from persons familiar with the Ridings material, the collection was done in the Denver-Pike's Peak area. Cresson's description was based principally on color, and apparently no distinction was made between pilosity and pubescence.

No mention could be found of this species in later myrmecological publications, but there seems to be no reason why *aterrima* should not be considered a good subspecies of *Formica rufa*, or at least a form related to that species. Since the male is very close to some of the same sex of other American forms of *rufa*, the former course would seem to be the wisest. One of the geographical races of *rufa* will eventually have to be synonymized as *F. rufa* subsp. *aterrima* Cresson, but this will be very difficult to bring about because of the similarity among the *rufa* males of the various subspecies and because of the presence of four or five of these subspecies in the vaguely defined original collecting area.